

## CLAIMS

## WHAT IS CLAIMED IS:

1. A method for treating or preventing hair loss in a patient comprising administering to said patient an effective amount of a p38 inhibitor.
- 5 2. The method of claim 1 wherein said p38 inhibitor is selected from the group consisting of: pyridinylimidazoles, substituted pyrazoles, substituted pyridyls, quinazoline derivatives, aryl ureas, heteroaryl analogues, substituted imidazole compounds, and substituted triazole compounds.
- 10 3. The method of claim 1 wherein said p38 inhibitor is selected from the group consisting of RWJ-67657, RDP-58, RDP-58, Scios-323, Scios-469, MKK3/MKK6 inhibitors (Signal Research Division); p38/MEK modulators (Signal Research Division); SB-210313 analogs, SB-220025, SB-238039, HEP-689, SB-203580, SB-239063, SB-239065, SB-242235, VX-702, VX-745, AMG-548, Astex p38 kinase inhibitors, RPR-200765 analogs, Bayer p38 kinase inhibitors, BIRB-796, Celltech p38 MAP kinase inhibitor, 681323, SB-15 281832, LEO Pharmaceuticals MAP kinase inhibitors, Merck & Co. p38 MAP kinase inhibitors, SC-040, SC-XX906, Novartis adenosine A3 antagonists, p38 MAP kinase inhibitors (Novartis Pharma AG), CP-64131, CNI-1493, RPR-200765A, Roche p38 MAP kinase inhibitors, and Ro-320-1195.
- 20 4. The method of claim 3 wherein said p38 inhibitor is selected from the group consisting of RDP-58, AMG-548, BIRB-796, CNI-1493, VX-702 and VX-745.
5. The method of claim 1 wherein said p38 inhibitor is administered locally.
6. The method of claim 1 wherein said p38 inhibitor is administered topically, subcutaneously, or transdermally.
- 25 7. A method for treating or preventing a hair condition in a patient comprising administering to said patient an effective amount of a p38 inhibitor.

8. The method of claim 6 wherein said hair condition is selected from the group consisting of alopecia areata, alopecia cicatrisata, alopecia totalis, alopecia universalis, alopecia keratosis pilaris, alopecia triangularis, anagen effluvium, androgenic alopecia, androgenetic alopecia, area celsi, bacterial folliculitis, black piedra, blackdot ringworm, cemic alopecia, cicatricial alopecia, chronic telogen effluvium, dermatophyte infection, diet deficiency induced alopecia, diffuse alopecia, dissecting cellulites, drug induced alopecia, eosinophilic pustular folliculitis, erosive pustular dermatosis, familial focal alopecia, feldman syndrome, female alopecia, female pattern baldness, follicular degeneration syndrome, folliculitis barbae, folliculitis decalvans, folliculitis keloidalis, graham-little syndrome, herpes simplex folliculitis, herpes zoster folliculitis, hot comb alopecia, involutional alopecia, ischemic alopecia, keratosis follicularis spinulosa decalvans cum ophiasis, lichen planopilaris, lipedematous alopecia, loose anagen syndrome, loose hair syndrome, male pattern baldness, mechanically induced alopecia, mixed inflammatory alopecia, occipital alopecia, occipital alopecia areata, ofuji syndrome, papular atrichia, pattern baldness, perifolliculitis capitis abscedens et suffodiens of hoffman, perinevoid alopecia areata, postpartum alopecia, pseudofolliculitis barbae, pseudopelade of brocq, ringworm, sarcoidosis, scarring alopecia, telogen effluvium, thermal alopecia, tick bite induced alopecia, tinea capitis, traction alopecia, traction folliculitis, traumatic alopecia, triangular alopecia, trichomycosis axillaries, trichotillomania, tufted hair folliculitis, and vaccination induced alopecia.
9. The method of claim 6 wherein said p38 inhibitor is selected from the group consisting of: pyridinylimidazoles, substituted pyrazoles, substituted pyridyls, quinazoline derivatives, aryl ureas, heteroaryl analogues, substituted imidazole compounds, and substituted triazole compounds.
10. The method of claim 7 wherein said p38 inhibitor is selected from the group consisting of RWJ-67657, RDP-58, RDP-58, Scios-323, Scios-469, MKK3/MKK6 inhibitors (Signal Research Division); p38/MEK modulators (Signal Research Division); SB-210313 analogs, SB-220025, SB-238039, HEP-689, SB-203580, SB-239063, SB-239065, SB-242235, VX-702, VX-745, AMG-548, Astex p38 kinase inhibitors, RPR-200765 analogs,

Bayer p38 kinase inhibitors, BIRB-796, Celltech p38 MAP kinase inhibitor, 681323, SB-281832, LEO Pharmaceuticals MAP kinase inhibitors, Merck & Co. p38 MAP kinase inhibitors, SC-040, SC-XX906, Novartis adenosine A3 antagonists, p38 MAP kinase inhibitors (Novartis Pharma AG), CP-64131, CNI-1493, RPR-200765A, Roche p38 MAP kinase inhibitors, and Ro-320-1195.

11. The method of claim 10 wherein the p38 inhibitor is selected from the group consisting of RDP-58, AMG-548, BIRB-796, CNI-1493, VX-702 and VX-745.
12. The method of claim 7 wherein said p38 inhibitor is administered locally.
- 10 13. The method of claim 7 wherein said p38 inhibitor is administered topically, subcutaneously, or transdermally.
14. The method of claim 8 wherein the condition is alopecia areata or female alopecia.
15. A method for treating or preventing vitiligo in a patient comprising administering to said patient an effective amount of a p38 inhibitor.
- 15 16. The method of claim 15 wherein the p38 inhibitor is selected from the group consisting of: pyridinylimidazoles, substituted pyrazoles, substituted pyridyls, quinazoline derivatives, aryl ureas, heteroaryl analogues, substituted imidazole compounds, and substituted triazole compounds.
17. The method of claim 15 wherein the p38 inhibitor is selected from the group consisting of  
20 RDP-58, AMG-548, BIRB-796, CNI-1493, VX-702 and VX-745.
18. The method of claim 15 wherein said p38 inhibitor is administered locally.
19. The method of claim 15 wherein said p38 inhibitor is administered topically, subcutaneously, or transdermally.

20. The method of claim 15 further comprising administering to said patient a corticosteroid, psoralen, or an immunomodulator.
21. A method for treating or preventing acne scars in a patient comprising administering to said patient a p38 inhibitor.
- 5 22. The method of claim 21 wherein the p38 inhibitor is selected from the group consisting of: pyridinylimidazoles, substituted pyrazoles, substituted pyridyls, quinazoline derivatives, aryl ureas, heteroaryl analogues, substituted imidazole compounds, and substituted triazole compounds.
- 10 23. The method of claim 21 wherein said p38 inhibitor is selected from the group consisting of RWJ-67657, RDP-58, RDP-58, Scios-323, Scios-469, MKK3/MKK6 inhibitors (Signal Research Division); p38/MEK modulators (Signal Research Division); SB-210313 analogs, SB-220025, SB-238039, HEP-689, SB-203580, SB-239063, SB-239065, SB-242235, VX-702, VX-745, AMG-548, Astex p38 kinase inhibitors, RPR-200765
- 15 analogs, Bayer p38 kinase inhibitors, BIRB-796, Celltech p38 MAP kinase inhibitor, 681323, SB-281832, LEO Pharmaceuticals MAP kinase inhibitors, Merck & Co. p38 MAP kinase inhibitors, SC-040, SC-XX906, Novartis adenosine A3 antagonists, p38 MAP kinase inhibitors (Novartis Pharma AG), CP-64131, CNI-1493, RPR-200765A, Roche p38 MAP kinase inhibitors, and Ro-320-1195.
- 20 24. The method of claim 23 wherein the p38 inhibitor is selected from the group consisting of RDP-58, AMG-548, BIRB-796, CNI-1493, VX-702 and VX-745.
- 25 25. The method of claim 21 wherein said p38 inhibitor is administered locally.
26. The method of claim 21 wherein said p38 inhibitor is administered topically, subcutaneously, or transdermally.
27. The method of claim 21 further comprising administering to said patient a treatment selected from the group consisting of dermabrasion, laser resurfacing, chemical peels, punch techniques, subcision, and augmentation.

28. The method of claim 27 wherein said p38 inhibitor is administered locally prior to said treatment.

29. A method for treating or preventing acne in a patient comprising administering to said patient an effective amount of a p38 inhibitor.

30. The method of claim 29 wherein the p38 inhibitor is selected from the group consisting of: pyridinylimidazoles, substituted pyrazoles, substituted pyridyls, quinazoline derivatives, aryl ureas, heteroaryl analogues, substituted imidazole compounds, and substituted triazole compounds.

31. The method of claim 29 wherein said p38 inhibitor is selected from the group consisting of RWJ-67657, RDP-58, RDP-58, Scios-323, Scios-469, MKK3/MKK6 inhibitors (Signal Research Division); p38/MEK modulators (Signal Research Division); SB-210313 analogs, SB-220025, SB-238039, HEP-689, SB-203580, SB-239063, SB-239065, SB-242235, VX-702, VX-745, AMG-548, Astex p38 kinase inhibitors, RPR-200765 analogs, Bayer p38 kinase inhibitors, BIRB-796, Celltech p38 MAP kinase inhibitor, 681323, SB-281832, LEO Pharmaceuticals MAP kinase inhibitors, Merck & Co. p38 MAP kinase inhibitors, SC-040, SC-XX906, Novartis adenosine A3 antagonists, p38 MAP kinase inhibitors (Novartis Pharma AG), CP-64131, CNI-1493, RPR-200765A, Roche p38 MAP kinase inhibitors, and Ro-320-1195.

32. The method of claim 31 wherein the p38 inhibitor is selected from the group consisting of RDP-58, AMG-548, BIRB-796, CNI-1493, VX-702 and VX-745.

33. The method of claim 29 wherein said p38 inhibitor is administered locally.

34. The method of claim 29 wherein said p38 inhibitor is administered topically, subcutaneously, or transdermally.

35. The method of claim 29 further comprising administering to said patient a treatment selected from the group consisting of a retinoid, an antibiotic, an oral contraceptive, Accutane, and a laser treatment.

36. The method of claim 29 wherein said p38 inhibitor is administered prior to said treatment.
37. The method of claim 1 further comprising administering to said patient an agent selected from the group consisting of Minoxidil, laser photo therapy, Revivogen, Toppe™, and Shen Min.™
- 5 38. The method of claim 7 further comprising administering to said patient an agent selected from the group consisting of Minoxidil, laser photo therapy, Revivogen, Toppe™, and Shen Min.™
39. A method for treating a skin or hair condition associated with the activation of the innate immune system comprising administering topically to affected area an effective amount  
10 of a p38 inhibitor.
40. The method of claim 39 wherein the p38 inhibitor is selected from the group consisting of RWJ-67657, RDP-58, RDP-58, Scios-323, Scios-469, MKK3/MKK6 inhibitors (Signal Research Division); p38/MEK modulators (Signal Research Division); SB-210313 analogs, SB-220025, SB-238039, HEP-689, SB-203580, SB-239063, SB-239065, SB-  
15 242235, VX-702, VX-745, AMG-548, Astex p38 kinase inhibitors, RPR-200765 analogs, Bayer p38 kinase inhibitors, BIRB-796, Celltech p38 MAP kinase inhibitor, 681323, SB-281832, LEO Pharmaceuticals MAP kinase inhibitors, Merck & Co. p38 MAP kinase inhibitors, SC-040, SC-XX906, Novartis adenosine A3 antagonists, p38 MAP kinase inhibitors (Novartis Pharma AG), CP-64131, CNI-1493, RPR-200765A, Roche p38 MAP  
20 kinase inhibitors, and Ro-320-1195.
41. A method for altering coloration of a dermal region comprising administering to said region an effective amount of an interleukin.
- 25 42. The method of claim 41 wherein said dermal region comprises a tattoo.

43. The method of claim 42 wherein said tattoo is selected from the group consisting of a decorative tattoo, a traumatic tattoo, a gunpowder tattoo.

44. The method of claim 41 wherein said dermal region comprises a decorative tattoo.

45. The method of claim 41 wherein said dermal region comprises a traumatic tattoo.

46. The method of claim 41 wherein said dermal region comprises a gunpowder tattoo.

47. The method of claim 41 wherein said altering comprises reducing the effective amount of said coloration.

48. The method of claim 41 wherein said interleukin is selected from the group consisting of IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, and IL-15.

49. The method of claim 41 wherein said interleukin is administered 1-10 times a day.

50. The method of claim 41 wherein said interleukin is administered topically or subcutaneously.

51. The method of claim 41 wherein said interleukin is administered transdermally.

52. The method of claim 41 further comprising a color alteration treatment.

53. The method of claim 52 wherein said color alteration treatment is selected from the group consisting of excision, dermabrasion, laser therapy, cryosurgery, grafting, camouflaging, scarification, and salabrasion.

54. The method of claim 53 wherein said color alteration treatment is laser therapy.

55. The method of claim 54 wherein said laser therapy is preformed with a Q-switched Nd:YAG laser, a Q-switched alexandrite laser, or a Q-switched ruby laser.

5 56. The method of claim 55 wherein said interleukin is administered prior to said color alteration treatment.

57. The method of claim 56 wherein said interleukin is administered prior to or post said color alteration treatment.

10 58. The method of claim 57 wherein said interleukin is administered prior to said laser therapy.

59. The method of claim 48 wherein said interleukin is IL-1.

15 60. A method for altering coloration of a dermal region comprising administering to said region an effective amount of a tumor necrosis factor.

61. The method of claim 60 wherein said dermal region comprises a tattoo.

20 62. The method of claim 61 wherein said tattoo is selected from the group consisting of a decorative tattoo, a traumatic tattoo, a gunpowder tattoo.

63. The method of claim 60 wherein said dermal region comprises a decorative tattoo.

25 64. The method of claim 60 wherein said dermal region comprises a traumatic tattoo.

65. The method of claim 60 wherein said dermal region comprises a gunpowder tattoo.



66. The method of claim 60 wherein said altering comprises reducing the effective amount of said coloration.

67. The method of claim 60 wherein said tumor necrosis factor is TNF-alpha or TNF-beta.

68. The method of claim 60 wherein said tumor necrosis factor is administered 1-10 times a day.

69. The method of claim 60 wherein said tumor necrosis factor is administered topically or subcutaneously.

70. The method of claim 60 wherein said tumor necrosis factor is administered transdermally.

71. The method of claim 60 further comprising a color alteration treatment.

72. The method of claim 71 wherein said color alteration treatment is selected from the group consisting of excision, dermabrasion, laser therapy, cryosurgery, grafting, camouflaging, scarification, and salabrasion.

73. The method of claim 72 wherein said color alteration treatment is laser therapy.

74. The method of claim 73 wherein said laser therapy is preformed with a Q-switched Nd:YAG laser, a Q-switched alexandrite laser, or a Q-switched ruby laser.

75. The method of claim 74 wherein said tumor necrosis factor is administered prior to said color alteration treatment.

76. The method of claim 75 wherein said tumor necrosis factor is administered prior to or post said color alteration treatment.

77. The method of claim 76 wherein said tumor necrosis factor is administered prior to said laser therapy.

78. The method of claim 67 wherein said tumor necrosis factor is TNF-alpha.

79. A method for altering coloration of a dermal region comprising administering to said region an effective amount of an interferon.

80. The method of claim 79 wherein said dermal region comprises a tattoo.

81. The method of claim 79 wherein said tattoo is selected from the group consisting of a decorative tattoo, a traumatic tattoo, a gunpowder tattoo.

82. The method of claim 80 wherein said dermal region comprises a decorative tattoo.

83. The method of claim 80 wherein said dermal region comprises a traumatic tattoo.

84. The method of claim 80 wherein said dermal region comprises a gunpowder tattoo.

85. The method of claim 89 wherein said altering comprises reducing the effective amount of said coloration.

86. The method of claim 89 wherein said interferon is selected from the group consisting of interferon-alpha, interferon-beta, and interferon-gamma.

87. The method of claim 89 wherein said interferon is administered 1-10 times a day.

88. The method of claim 89 wherein said interferon is administered topically or subcutaneously.

89. The method of claim 89 wherein said interferon is administered transdermally.

90. The method of claim 89 further comprising a color alteration treatment.

5 91. The method of claim 89 wherein said color alteration treatment is selected from the group consisting of excision, dermabrasion, laser therapy, cryosurgery, grafting, camouflage, scarification, and salabrasion.

92. The method of claim 91 wherein said color alteration treatment is laser therapy.

10 93. The method of claim 92 wherein said laser therapy is preformed with a Q-switched Nd:YAG laser, a Q-switched alexandrite laser, or a Q-switched ruby laser.

15 94. The method of claim 93 wherein said interferon is administered prior to said color alteration treatment.

95. The method of claim 94 wherein said interferon is administered prior to or post said color alteration treatment.

20 96. The method of claim 95 wherein said interferon is administered prior to said laser therapy.

97. The method of claim 79 wherein said interferon is interferon-alpha.

25 98. A method for altering coloration of a dermal region comprising administering to said region an effective amount of a cytokine excluding a macrophage colony-stimulating factor.

99. The method of claim 98 wherein said dermal region comprises a tattoo.

100. The method of claim 99 wherein said tattoo is selected from the group consisting of a decorative tattoo, a traumatic tattoo, a gunpowder tattoo.

101. The method of claim 99 wherein said altering comprises reducing the effective amount of said coloration.

102. The method of claim 99 wherein said cytokine is selected from the group consisting of interferon-alpha, IL-1, and TNF-alpha.

103. The method of claim 99 wherein said cytokine is administered 1-10 times a day.

104. The method of claim 99 wherein said cytokine is administered topically or subcutaneously.

105. The method of claim 99 wherein said cytokine is administered transdermally.

106. The method of claim 99 further comprising a color alteration treatment.

107. The method of claim 106 wherein said color alteration treatment is selected from the group consisting of excision, dermabrasion, laser therapy, cryosurgery, grafting, camouflaging, scarification, and salabrasion.

108. The method of claim 107 wherein said color alteration treatment is laser therapy.

109. The method of claim 108 wherein said laser therapy is performed with a Q-switched Nd:YAG laser, a Q-switched alexandrite laser, or a Q-switched ruby laser.

110. The method of claim 106 wherein said cytokine is administered prior to said color alteration treatment.

111. The method of claim 106 wherein said cytokine is administered prior to or post said color alteration treatment.
112. The method of claim 108 wherein said cytokine is administered prior to said laser therapy.
113. A method for treating a condition in a mammal comprising the step of administering to said patient a neurotoxin and a neuron growth inhibitor.
114. The method of claim 113 wherein said administering step results in the inhibition of neurotransmission of a neurotransmitter.
115. The method of claim 114 wherein said inhibition is temporary.
116. The method of claim 114 wherein said inhibition lasts for at least 6 months.
117. The method of claim 114 wherein said neurotransmission is of neurotransmitter acetylcholine.
118. The method of claim 113 wherein the neurotoxin is selected from the group consisting of botulinum toxin, tetanus toxin, curare, bungarotoxin, saxitoxin, and tetrodotoxin.
119. The method of claim 118 wherein the neurotoxin is a botulinum toxin.
120. The method of claim 119 wherein the botulinum toxin is selected from the group consisting of botulinum toxin type A, B, C, D, E, F, and G.
121. The method of claim 120 wherein the botulinum toxin is botulinum toxin type A.

122. The method of claim 113 wherein the neuron growth inhibitor is selected from the group consisting of a Trk receptor inhibitor, a Ras inhibitor, a Raf inhibitor, a Rap-1 inhibitor, a MEK inhibitor, an ERK inhibitor, a PKA inhibitor, a PKC inhibitor, a p53 inhibitor, and a growth factor inhibitor.

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123. The method of claim 113 wherein the neuron growth inhibitor is a MEK inhibitor.

124. The method of claim 123 wherein the MEK inhibitor is selected from the group consisting of PD98059, U0126, PD 184352, 2-Chlor-3-(N-succinimidyl)-1,4-naphthoquinone, PD 184352 ARRY-142886, tricyclic flavone, and 2-(2-amino-3-methoxyphenyl)-4-oxo-4H-[1]benzopyran.

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125. The method of claim 113 wherein the neuron growth inhibitor is a b-Raf kinase inhibitor.

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126. The method of claim 125 wherein the neuron growth inhibitor is a b-Raf kinase inhibitor and is Rheb, BAY-43-9006, or a Raf kinase inhibitor protein.

127. The method of claim 113 wherein the neurotoxin is administered prior to administration of the neuron growth inhibitor.

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128. The method of claim 113 wherein either the neurotoxin or the neuron growth inhibitor is administered locally.

129. The method of claim 113 wherein said condition is selected from the group consisting of a localized dystonia.

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130. . The method of claim 129 wherein said localized dystonia is selected from the group consisting of cervical dystonia, embouchure dystonia, oromandibular dystonia, spasmodic dystonia, and writer's cramp.

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131. The method of claim 113 wherein said condition is a thyroid condition.

132. The method of claim 131 wherein said thyroid condition is selected from the group consisting of hyperthyroidism, hypothyroidism, Graves' disease, goiter, thyroiditis, cancer, and all other conditions that may result in hypothyroidism or hyperthyroidism.

133. The method of claim 113 wherein said condition is a neurological disorder.

134. The method of claim 133 wherein said neurological disorder is selected from the group consisting of a migraine headache, chronic pain (e.g., chronic low back pain), chronic muscle pain (e.g., fibromyalgia), stroke, traumatic brain injury, localized pain (e.g., vulvodynia), cerebral palsy, meige syndrome, hyperhydrosis, tremor, achalasia, secondary and inherent dystonias, Parkinson's disease, spinal cord injury, multiple sclerosis, and spasm reflex.

135. The method of claim 113 wherein said condition is a muscle injury.

136. The method of claim 135 wherein said muscle injury is selected from the group consisting of contusions (bruises), lacerations, ischemia, strains, and complete ruptures.

137. The method of claim 113 wherein said condition is a urological condition.

138. The method of claim 137 wherein said urological condition is selected from the group consisting of pelvic pain, pelvic myofiscial elements, urinary incontinence, prostate disorders, recurrent infection, and urinary retention and bladder dysfunctions.

139. The method of claim 113 wherein said condition is an optical condition.

140. The method of claim 139 wherein said optical condition is selected from the group consisting of blepharospasm, strabismus, and Duane's syndrome.

141. The method of claim 113 wherein said condition is a dermatological condition.

142. The method of claim 141 wherein said dermatological condition is selected from the group consisting of the appearance of aging skin, wrinkles, eczema, psoriasis, dermatitis, melanoma, pityriasis, and skin cancer.

143. The method of claim 113 wherein said condition is characterized by snoring.

144. The method of claim 113 wherein said condition is a wound.

145. The method of claim 128 wherein said local administration is selected from the group consisting of topically, subdermally, intramuscularly, and subcutaneously.

146. The method of claim 113 wherein said neurotoxin is botulinum toxin type A and is administered at a dose of 0.25-50 units at about every 3 months.

147. A composition for treating or preventing a condition in a patient comprising a neurotoxin and a neuron growth inhibitor.

148. The composition of claim 147 wherein the neuron growth inhibitor is selected from the group consisting of a Trk receptor inhibitor, a Ras inhibitor, a Raf inhibitor, a Rap-1 inhibitor, a MEK inhibitor, an ERK inhibitor, a PKA inhibitor, a PKC inhibitor, a p53 inhibitor, and a growth factor inhibitor.

149. The composition of claim 147 wherein the neuron growth inhibitor is a MEK inhibitor selected from the group consisting of PD98059, U0126, PD 184352, 2-Chloro-3-(N-succinimidyl)-1,4-naphthoquinone, PD 184352 ARRY-142886, tricyclic flavone, and 2-(2-amino-3-methoxyphenyl)-4-oxo-4H-[1]benzopyran.



150. The composition of claim 147 wherein the neuron growth inhibitor is a b-Raf inhibitor selected from the group consisting of Rheb, BAY-43-9006, and a Raf kinase inhibitor protein.

5 151. The composition of claim 147 wherein the neurotoxin is selected from the group consisting of botulinum toxin, tetanus toxin, curare, bungarotoxin, saxitoxin, and tetrodotoxin.

152. The composition of claim 147 wherein the neurotoxin is botulinum toxin type A.